Abstract

Clostridium difficile (C. difficile) infection (CDI) is a growing health problem worldwide and particularly in healthcare settings. In the United States, C. difficile affects over half a million people annually, leading to adverse outcomes for patients, providers, and institutions due to a negative association with mortality, morbidity, hospital stays, and financials. This DNP project employs an evidence-based initiative to decrease hospital-acquired C. difficile (HA-C. difficile) rate, utilizing a Nurse Driven C. difficile Protocol/Algorithm that elucidates testing appropriateness; the *Plan-Do-Study-Act* model was used for implementation. The staff was educated on the protocol utilizing an online platform and in-patient unit-based huddles. Pre- and post-implementation data was collected using a chart audit review tool. Project results were analyzed using an independent two-sample t-test at a 0.05 level of significance (95% confidence level) to investigate the chances of differences at a 95% confidence interval. One-way ANOVA, Multiple Linear Regression, and Tukey's Honest Significant Difference (Tukey's HSD) were also used for data analysis. The ten questions chart audit tool was used to investigate 29 attributable HA- C. difficile. Results were significant, $t(16) = 2.434$, $p = .027$. There was a significant rate in C. difficile rate during pre-and post-implementation of the nurse-driven protocol with the rate being higher post-implementation ($M = 6.50$, $SD = .707$) than pre-implementation ($M = 5.25$, $SD = .683$). The result was significant at the $p < .05$ level of significance. Consequently, this DNP project can be utilized to add to existing and further research studies on the various attributed variables of the Nurse Driven C. difficile Protocol/Algorithm.

Keywords: HA- C. difficile, nurse-driven protocol, CDI, *Plan-Do-Study-Act*, attributed, testing appropriateness